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ABSTRACT

Before being included in Kanazawa City in 1954, all villages in the Yasuhara district of Japan might have been called model village communities, for these farming communities were built around common utilization of naturally-flowing ground water, and the rice farmers worked communally exhibiting principles of closeness and equality. When Yasuhara was included in Kanazawa City, the natural balance between the urban and rural society was disturbed, and the natural environment was destroyed. Some 350,000 square meters of farm land were diverted to factory use via construction of a large scale M. apartment development (1969), a dye work factory (1969-70), and a factory complex (1971-74). As urbanization progressed, the water supply began to decrease, since Yasuhara and neighboring districts were using air conditioning in offices and homes and the factories were using large quantities of water for industry. As a result, many professional farmers were forced to take side jobs and the village community consisting of farmers was destroyed. In its place, a community composed of an industrial system, an urban system, and an agricultural system was established. Yasuhara district is only one of many rural districts currently suffering from Japan's 1960-70 policy of intensified industrialization and the resulting imbalance between nature and man. (JC)

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THE CONSEQUENCE OF ECONOMIC GROWTH FOR HUMAN AND NATURAL RESOURCE DEVELOPMENT: CASE STUDY IN JAPAN

Paper presented to the Fourth World Congress
for Rural Sociology, Torun, Poland
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ABSTRACT

Within the total society, both rural and urban societies have important roles to play.

The total society can be defined as a self-sufficient and comprehensive entity which provides for all values and interests; economic, social, cultural, political and so on.

The individual as a unit of the total society can satisfy the totality of his desires in it, and can lead a life worthy of a man there. To assure the healthy life of the individual, all factors should remain in equilibrium. Urban and rural societies must maintain a balance with each other.

Human beings are part of nature. Nature is included in the totality of the total society, too. Human beings and nature should maintain a balance with each other in

the total society. Thus, it is important for mankind to understand nature. Without understanding nature, human beings can not lead a healthy life. Therefore, if only the economic factor were to be developed, both human beings and nature would be destroyed.

My study deals with the problem that has arisen in the relationship between rural society and agricultural irrigation systems under industrialization and urbanization.

The case I have examined is the village in Yasuhara district in Kanazawa City that has been destroyed because of industrialization and urbanization. Without an understanding of nature, these development have taken place under the influence policy for economic development.

Before being included in Kanazawa City, Yasuhara district might have been a model agricultural area, since there was much naturally-flowing ground water. This was the basis of the village's strength as a rural community.

But after it merged with the city, government policy included the village in the network of urban planning. At that time, a change in the quality of the village occurred. The village community was destroyed.

I

Within the total society, both rural and urban societies have important roles to play.

The total society can be defined as a self-sufficient and comprehensive entity which provides for all values and interests[1]: economic, social, cultural, political and so on.

The unit of the total society is the individual who has his will and behaves according to it all the time. The connection of this behavior makes the various human relationships, and also makes the various social groups of which the individual is a member.[2] The total society has both the characteristics of the social groups and also other characteristics which rise above these groups. The total society, thus, has both the continuous and uncontinuous characteristics of the social group.[3]

Both the rural and urban societies consist of individuals, involve various social groups, and are, in themselves, societies within the total societies.

These days, it is most reasonable to consider that

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1. Yasuma Takada, Kaitei Shakaigaku-Gairon (Revision General Theory of Sociology) (Tokyo: Iwanami-shoten, 1965), pp. 183-203.
2. Yasuma Takada, ibid., p. 183.
3. Kazuta Kurauchi, Shakaigaku (Sociology) (Enlarged Edition), (Tokyo: Baifukan, 1966), p. 238, p. 239.

the range of the total society extends within one state, though it is expanding beyond the bounds of one state more and more.[4] Thus, one of the most important problems is what kind of social system the state will have: for instance, feudal, capitalistic, socialistic, etc.

The total society has a definite structure which can be viewed in two different ways. On the one hand, there is the horizontal division of labour or social differentiation, while on the other, there is the vertical social classification and social stratification structure.[5] For instance, agriculture is a differential or horizontal aspect of social differentiation of occupation or the way of production.

I wish to add to the theories which some scholars have advocated in the past on this subject. I believe it is necessary to recognize the following:

First, the individual as a unit of the total society can satisfy the totality of his desires in it, and can lead a life worthy of a man there. To assure the healthy life of the individual, all factors should remain in equilibrium. Urban and rural societies must maintain a balance with each other.

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4. Kazuta Kurauchi, ibid., p. 235, p. 239.
5. Kazuta Kurauchi, ibid., pp. 244-249.

Second, it is very important that human beings understand that they are part of nature. Nature is included in the totality of the total society, too. Human beings and nature should maintain a balance with each other in the total society. Thus, it is important for mankind to understand nature. Without understanding nature, human beings can not lead a healthy life. Therefore, if only the economic factor were to be developed, both human beings and nature would be destroyed.

II

My study deals with the problem that has arisen in the relationship between rural society and agricultural irrigation systems under industrialization and urbanization. The case I have examined is the village that has been destroyed because of industrialization and urbanization. Without an understanding of nature, these developments have taken place under the influence of governmental policy for economic development.

Yasuhara district belongs to Kanazawa City and is a rice-growing district. It is divided into seven villages:

six are traditional and the seventh is newly established. The total number of houses and farming families in Yasuhara in 1974 is shown in Table 1 (except the newly established village).

Table 1. Number and Percentage of Farmers.

Name of Village	Total Number of Houses	Number of Farm Houses	Percentage of Farmers
Fukumasu	91	48	53 %
Utsugi	128	70	55
Shimoyasuhara	121	62	51
Toyoho	39	32	82
Kamiyasuhara	49	34	70
Nakaya	51	36	71
Total	479	282	59

About 60 percent of all houses belonged to farmers. In every village, farmers comprised more than 50 percent. In both Nakaya and Kamiyasuhara, they comprised more than 70 percent and in Toyoho more than 80 percent of the population.

In "The 1970 Census of World Agriculture and Forestry" we can see the relative situation of the farmers in these villages (Table 2 and 3).

Table 2. Characteristics of Farmers: Professional Farmers and Farmers with a Side Job.

Name of Village	Number of Farmers	Professional Farmers	Farmers with a Side Job		
			Total	The First Class*	The Second Class**
Fukumasu	50	0(0)(%)	50(100)(%)	31(63)(%)	19(38)(%)
Utsugi	75	32(43)	43(57)	25(58)	18(42)
Shimoyasuhara	63	41(65)	22(35)	14(64)	8(36)
Toyoho	32	3(9)	29(91)	19(66)	10(34)
Kamiyasuhara	36	1(3)	35(97)	22(63)	13(37)
Nakaya	36	1(3)	35(97)	31(89)	4(11)
Total	292	78(27)	214(73)	142(66)	72(34)

* The first class farmer with a side job means that the farmer's income from agriculture is more than his income from the side job.

** The second class farmer with a side job means that the farmer's income from the side job is more than his income from agriculture.

Table 3. Relative Situation of Farmers.

Name of Village	Number of Farmers	0.05 ha * – 0.1	0.1 – 0.3	0.3 – 0.5	0.5 – 0.7	0.7 – 1.0	1.0 – 1.5	1.5 – 2.0	2.0 – 2.5	2.5 – 3.0	3.0 – 5.0
Fukumasu	50		2	6	5	4	9	9	6	9	
Utsugi	74**	2	4	2	7	10	25	19	4	1	
Shimoyasuhara	63		2	4	2	2	11	13	14	9	6
Toyoho	32				3	5	9	11	4		
Kamiyasuhara	36			5	3	2	6	11	5	4	
Nakaya	36		3	1			10	18	4		
Total	291	2	11	18	20	23	70	81	37	23	6

* The numbers here refer to the size of the farms in hectares.

** The other special case is 1.

The percentage of professional farmers is high in both Shimoyasuhara and Utsugi villages since they have successfully improved the agricultural production of the Japanese radish there.

Before being included in Kanazawa City in 1954, all villages in Yasuhara district might have been called model village communities (Gemeinde).

The village communities were built on the basis of the common utilization of irrigation water, since there was an abundant supply of naturally-flowing ground water. The ground water was tapped at a depth of 90 or 100 meters. The well pipe was 20 centimeters in diameter. Sometimes the water spouted 70 or 80 centimeters above the ground and fell upon an area 150 centimeters wide. Source of water for the rice fields in this district was this water and also water from the river. 200 hectares of the total 335 hectares of rice fields were irrigated by ground flowing water.

Farmers in every village managed this irrigation water communally. They shared upkeep for the maintenance of this water source for the upkeep to buy pipes, for the upkeep for the maintenance of water roads, and so on. Moreover, they worked communally to repair the water roads, dig the well, etc. Principles of "closeness" and "equality"

developed in such situations.

On the basis of the social group which used the water source communally, many other social groups accumulated in every village. The social group using the water source provided a foundation for other groups which were not directly related to the water source. For example, religious groups, ko-association groups, and neighborhood groups grew upon the base of the water-using society.

Within the village community, the network of kinship spread throughout the community. Farmers ahared a communal consciousness in the village.

III

In 1954, Yasuhara was included in Kanazawa City. From this time, the villages began to change in quality.

The Japanese government's policy for high-degree economic development, begun in 1960, was especially influential. In Japan, drastic industrialization advanced year by year for a period of about 10 years (1960-1970). Under this influence, industry in urban areas increased, while agriculture in rural areas decreased. As a result, the balance of urban society and rural society was disturbed, and the

natural environment was destroyed. Yasuhara district in Kanazawa City is a model of such a case.

In Kanazawa City, plans for development have been taken as follows. 1. In 1964 —— Long Development Planning for 15 years, 2. In 1970 —— The Setting of a New Goal to Reach a Population of 600 Thousand, 3. In 1974 —— The New Long Plan for a High Degree Welfare Society. These policies involved reform of the industrial basis, reorganization of the urban structure and so on.

Yasuhara district became an Adjustment District for Urban Area in law, in 1961. In other words, it was in-between the rural and urban areas and would be allowed would be farmed later on.

During these periods the new change occured in Yasuhara district, as follows :

1. In 1969 —— The large scale M. apartment development area of 1674 houses was built.
2. From 1969-1970 —— K. Yuzen's dye work factory complex of 41,580 square meters was created. A K. motor work factory and an I. textile mill were also built at this time.
3. From 1971-1974 —— A new factory complex in Yasuhara of 670,000 square meters (neighboring those factories built from 1967-1970) was planned. As a result,

350,000 square meters of farm land were diverted for factory use.

As a result, the number of farms decreased. This decrease, resulting from the establishment of both the M. apartment area in 1969 and the Y. factory complex in 1971-1974 can be seen in Table 4. In these two cases, a total of 389,484 square meters including 298.84 hectare rice fields and 84.82 hectare (other) fields were destroyed.

In this process of industrialization and urbanization, the most noticeable phenomena occured in the Yasuhara district. The ground water there was drying up.

Table 4. Diverting Land from Farm to Factory in Yasuhara District.

Name of Town	Diverted Land Square Meters	Diverted Farm Land	
		Rice Field	Field (other crops)
Fukumasu	72608$^{m^2}$	60.35^{ha}	0.01^{ha}
Utsugi	111034	51.19	27.26
Shimoyasuhara	26983	58.22	57.00
Toyoho	59593	32.84	0.15
Kamiyasuhara	61368	43.26	0.20
Nakaya	57898	52.98	0.20
Total	389484	298.84	84.82

As urbanization or modernization progressed the inhabitants of Yasuhara and the neighboring districts began to use air conditioning in offices, businesses and private houses. Various factories also used large quantities of water for industry.

At night, the water still spouts above the ground but with for less force than before. On Sundays, the ground water spouts continuously. Yet during the hours when the factories are poerating, the water does not spout at all. Thus, it is evident that the factories are drying up the water supply.

Originally, companies planned to establish various factories in this district precisely because of it had a large supply of ground water. Although there was enough water for their factories, there was not enough for both the factories and the farmers at the same time. So now there is an insufficient supply of water for irrigation.

Then, why did the farmers in this district approved of the plan to establish more apartment area and factory complex? The main reason was that they felt it was difficult to cultivate rice fields since the supply of ground water was decreasing.

Thus, many professional farmers were forced to take side jobs, thereby becoming members of the second class

of farmers —— those with a side job. (See Table 2).

The village community consisting of all professional farmers was destroyed. In its place, there is now a community composed of 1. an industrial system, 2. an urban system, 3. an agricultural system.

Under the influence of the Japanese governmental policy for high-degree development, some of the industrialization and urbanization in Yasuhara district was undertaken without understanding of nature. Consequently, the rural society has been broken down.

Yasuhara district is only one of many similar rural districts in Japan. Without maintaining the balance between urban and rural societies, and between industry and agriculture a total society cannot exist.

Today, many Japanese believe that their social problems have been caused by industrialization. I would like to point out the present situation in the Yasuhara district: Here, the farmers are interested in methods by which they can obtain irrigation water, their possible plans include 1. Setting up pumping equipment, 2. Appealing to the city for a subsidy to buy pumps, 3. Extending the city waterworks to include the Yasuhara district, 4. Obtaining a city subsidy to extend these waterworks, 5. Researching the origin of the underground water in hopes of finding more, 6. Obtaing a subsidy to carry out this research.